CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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This is UNEVALUATED Information

THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.
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8th February, 1955.

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PART II - REPORT

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The special apparatus consisted of a glass tube about 70 cm. long and 12-15 cm. in diameter, the glass being about 2 mm. in thickness. A copper plug fitted into one end of the glass tube and was vacuum-sealed. The apparatus was mounted by means of light metal rings on a "Pertinax" plate. A copper cone in the centre of the copper plug held the diaphragm in position within the glass tube. A vacuum pump was then set in motion and when the necessary vacuum was indicated on a mercury manometer a stop cock was opened thus allowing the air to flow into the glass tube. The speed of air flow was checked by an oil pressure manometer and the permeability of the diaphragm was then calculated by means of a stop watch which was set in motion as soon as the stop cock was opened. Each diaphragm was tested twice in this manner and the mean reading taken. Four of these barrier testers were made. One was retained at SINOP and the other were sent to "Labor II" in MOSCOW. The first barrier tester was finished in October 1947 and was retained at SINOP. The other three were made at the beginning of 1948 and were immediately sent to "Labor II". The barrier tester at SINOP was used for testing the first 600 diaphragms in October of 1947 which after test were sent to "Labor II" in MOSCOW.

2. 25X1 THIESSEN's laboratory was asked to produce 600 diaphragms in 12 days in October 1947. 25X1

The second order for 400 diaphragms was received at the beginning of 1948. From then on small quantities of diaphragms of different lengths and varying permeability were tested but no orders were received for a regular time delivery of diaphragms. The lengths of diaphragm varied between 38 cm. and 50 cm. and the permeability figure lay between 2.5 min. and 3.7 max.

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the term 2.5 gamma and 3.7 gamma [redacted] these limits of permeability had been issued to the institute from MOSCOW. The type of diaphragm which was finally approved and adhered to was 38 cm. long, about 18 mm. in diameter and the permeability figure lay between 2.5 min. and 3.7 max. 25X1

3. [redacted] 25X1

4. [redacted] 25X1

Nickel fine wire mesh was delivered in small quantities from time to time by air transport from MOSCOW. It was delivered in rolls approximately 1 metre long and about 8 centimetres in diameter. It was invariably of the same sort, i.e. 10,000 meshes per square centimetre.

5. [redacted] 25X1

The finished dimensions of the tubes which were finally adopted for production were 38 cm. long and 18 mm. in diameter.

6. [redacted] 25X1

[redacted] nickel powder was manufactured at CHAPAYEVSK and [redacted] work on this project commenced at the beginning of 1948. [redacted] 25X1
Dip.Chem. HARTZ had gone to CHAPAYEVSK in the summer of 1948 in order to explore the possibilities of producing a finer grain powder than that which was then being manufactured there.

7. [redacted] 25X1

[redacted] diaphragms were seam-welded down the centre and tapered conically at one end. The second diaphragm fitted over the cone-shaped end of the first and was seam-welded to it in two places. Each cascade consisted of about 2,000 diaphragms. The work of linking the diaphragms in cascades commenced in the late summer or autumn of 1948. Initial welding experiments on diaphragms were carried out [redacted] the spring of 1948. 25X1
[redacted] 25X1
When the wire mesh, after spraying, was cut to the required dimensions (40 cm. long and 5 cm. in width) it was placed on a "Pertinax" plate which had a semi-circular groove. A copper bar with a tapered end

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was then placed in position and the wire mesh rolled around it and then seam-welded. During the experiments carried out at SINOP for linking diaphragms together never more than three such diaphragms were thus linked. The actual linking in cascades was not carried out at SINOP

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the actual linking of diaphragms in cascades was carried out at this unknown place behind the URALS.

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the term used by von MAYDELL was high frequency and not H.F. the term high frequency was used in BOROVICHI Camp some time in 1949.

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Vladimir von MAYDELL, who was an exponent of high frequency, had his own laboratory

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9. Details of barrier corrosion methods using fluorine

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The generators consisted of a horseshoe-shaped copper pipe about 10 cm. in diameter, each leg being about 40 cm. high and 30 cm. apart. The copper used was about 4 mm. in thickness. The copper pipe was covered with asbestos on which a chrome nickel wire heating element was wound. This was then covered with a further layer of asbestos. The heating element was capable of attaining a temperature of 500°C. The whole was fitted with an outer duraluminium cover. The apparatus was equipped with two electrodes, one copper and the other carbon through which current was delivered at so and so many milliamperes

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after the sodium chloride salts had been heated to a point approaching 400°C. After electrolysis hydrogen was delivered on the one side of the apparatus and fluorine on the other. The hydrogen was released through a stop cock and the fluorine was released by its own pressure through a nickel pipe. This nickel pipe was linked to six vacuum proof glass cylinders each containing a diaphragm. The plugs on the glass cylinders and the plugs on the bottom of each diaphragm were made of copper and sealed with a black tar-like substance which became soft on heating and was not allergic to fluorine. The black substance which acted as a sealing compound, was called "piziin" which we presume was the Russian term used. The nickel pipe was further linked to a water ejector pump on the other side of the glass cylinders and by this means the fluorine was run off into a drain. An oil pressure manometer was located between the fluorine generator and the glass cylinders, a mercury manometer was set in position between two of the glass cylinders.

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PART III - PERSONALITIES

1. "Labor II"

German	Russian
Prof. THIESSEN	Prof. KIKOYAN
Richard POCK	General SCHWERIEV
Walter KNABEL	

2. "ELEKTROSTAL"

German	Russian
Prof. THIESSEN	No names available.
Dip.Chem. ZIEHL	
Dip.Chem. HARTZ	
Dr. Martin KREKKER	
Frl. Ingrid SCHILLING	
Frl. Dorothea THIESSEN	
Dr. RIEDEL	
BARONI (frau)	
Friedrich SCHMITZ	

3. SINOP

German	Russian
Dr. MÖHR	BURDIASCHWILLI
Dr. ZIEGLER	
Dip.-Ing. Vladimir von MAYDELL	

PART IV - ANNEXES

Annex "A" - Sketch of Barrier Tester [redacted]

Annex "B" - Sketch of Fluorine Generator. [redacted] 25X1

Annex "C" - Sketch illustrating linking of Diaphragms in Cascades [redacted] 25X1

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Annex "A" [redacted] 25X1

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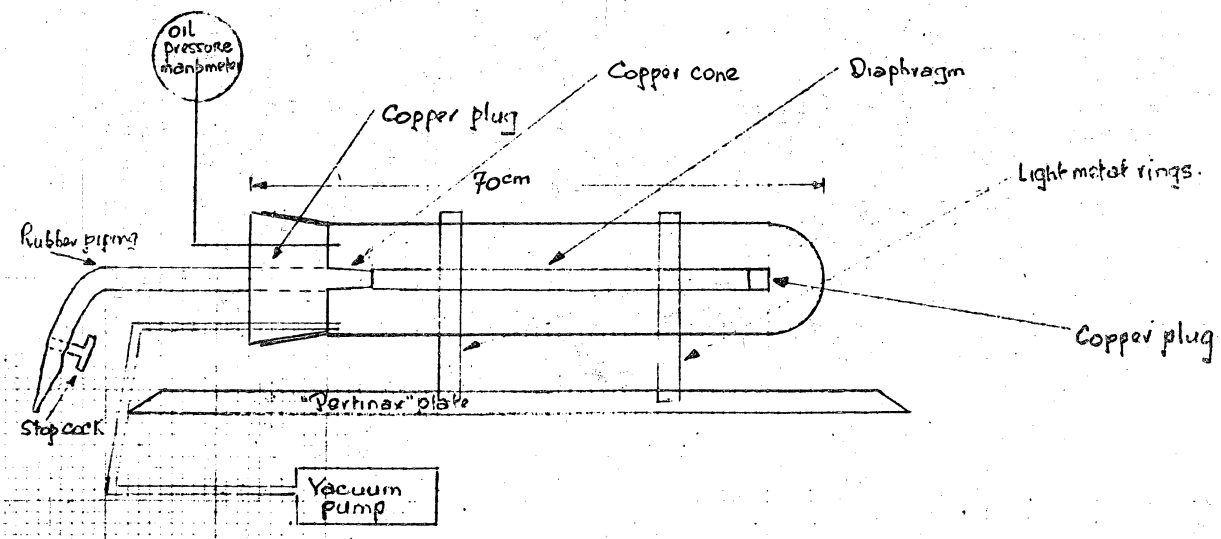

Sketch of barrier tester [redacted] SECRET

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Annex "B"

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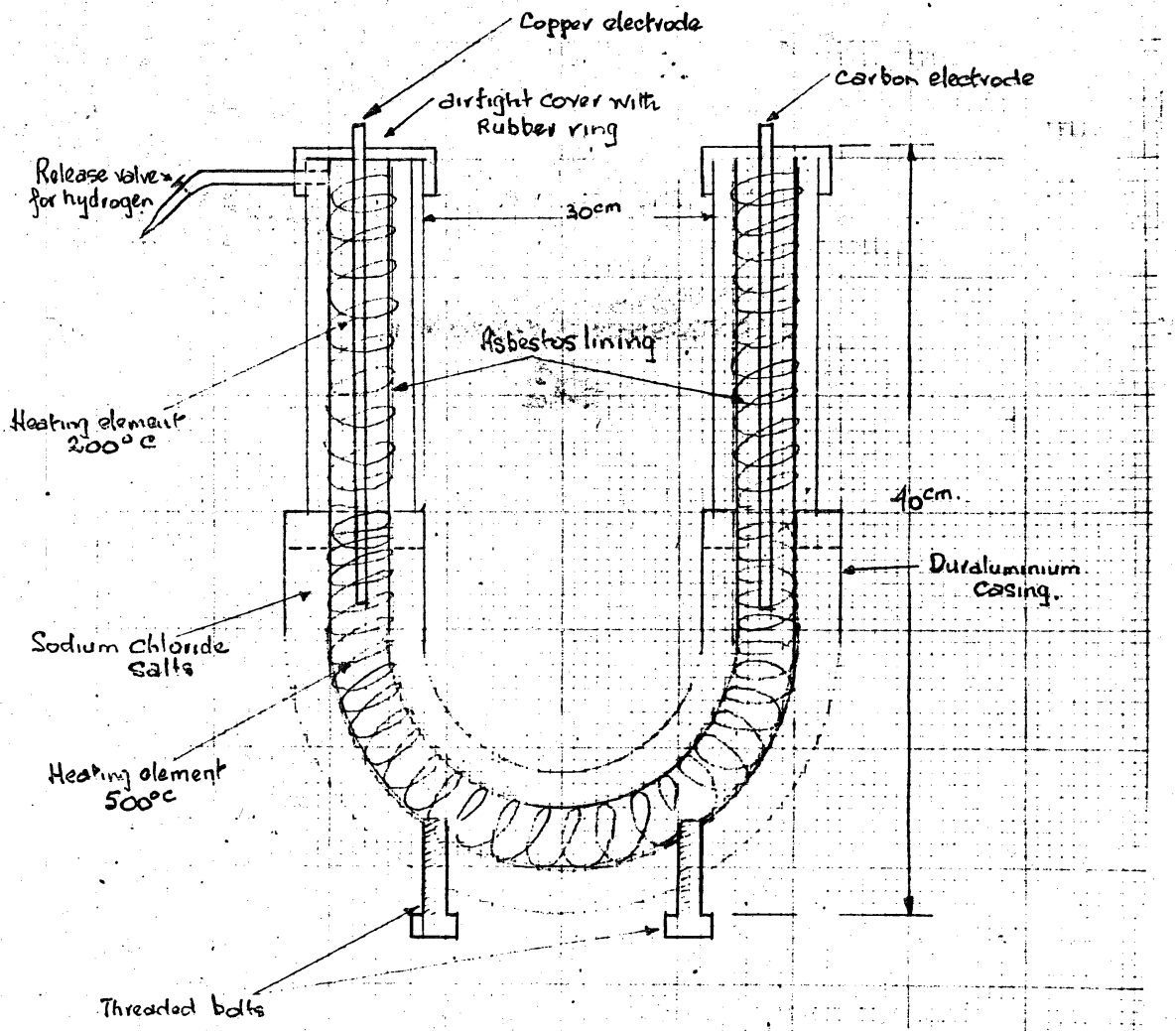

Sketch of fluorine generator [redacted] 25X1

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Annex "C"

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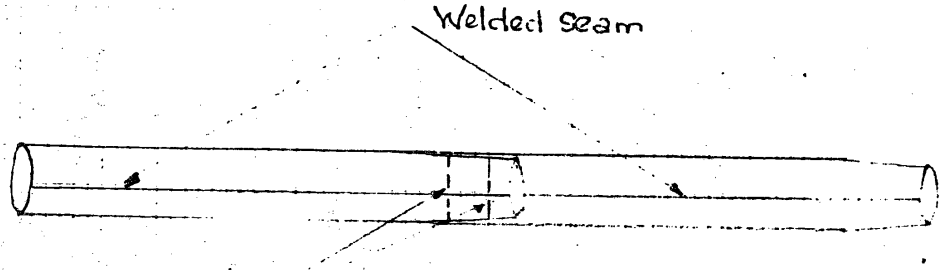

Welded seams linking bolth diaphragms.

Sketch illustrating linking of diaphragms in cascades

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